UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,595	06/22/2006	Takahiro Nagaoka	033010-107	1363

21839 7590 09/03/2009

BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER	
BONK, TERESA	

ART UNIT	PAPER NUMBER
3725	

NOTIFICATION DATE	DELIVERY MODE
09/03/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	Application No.	Applicant(s)	
	10/550,595	NAGAOKA ET AL.	
	Examiner	Art Unit	
	Teresa M. Bonk	3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-19,22-32,34,37 and 40* is/are rejected.

7)☒ Claim(s) *20,21,33,35,36,38 and 39* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 16, 2009 has been entered.

Specification

The disclosure is objected to because of the following informalities: The original specification, submitted on September 23, 2005, is replete with lack of spacing between words. For example, the ninth line under the "Background Art" section currently reads "configurationforautomaticallyadjustingthewiretwistingtorque".

Appropriate correction is required.

Claim Objections

Claims 15, 16, and 34 are objected to because of the following informalities: It is noted that the term "second to-be-detected portion" in claim 15, line 16 and claim 16, line 4 has misplaced dashes. With regards to claim 34, the last word of the claim is "and," this word should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-18, 23-30, 32, 37, and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regards to claims 15 and 16, there is insufficient antecedent basis for "the second to-be-detected portions" on lines 16 and 4, respectively. Claim 15, lines 12-13 only sets forth "at least one second to-be-detected portion."

With regards to claim 15, line 7, there is insufficient antecedent basis for "the detecting device."

Claim 23, presently states on lines 7-9: "counting a second to-be-detected portion passing a second detecting apparatus during an amount of rotation of the wire reel detected by a first detecting apparatus." It is not clear how there can be a "*second* to-be-detected portion" without a *first* to-be-detected portion. The "*first* detecting apparatus" should be set forth before the "*second* detecting apparatus." Also, it is unknown where the "second to-be-detected portion" is located with respect to the binder and/or reel elements. It is also unclear if the "counting" occurs during "rotation" or if the "first detecting apparatus" detects the "rotation."

With regards to claims 24 and 32, it is unclear in the limitation, "in accordance with a specific wire reel identified by the method," what the "specific wire reel" is since upon review of "the method" set forth by independent claim 23, no structure or evidence has been provided.

With regards to claim 37, there is insufficient antecedent basis for "the light reflecting mark."

With regards to claim 40, it is unclear what the "*previous* (and) *next* first to-be-detected portion(s)" are since independent claim 15 sets forth "a (singular) first to-be-detected portion." The Examiner interprets the claim to set forth detecting the first to-be-detected portion at least a first and a second time as the reel rotates and each time a signal is received by the control circuit.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 31 is rejected under 35 U.S.C. 102(b) as being anticipated by Taneda et al. (hereafter "Taneda") (US Patent 4,244,539), newly cited.

With regards to claims 31, Taneda discloses a wire-reel [wire 19 and bobbin/reel 15] identifying method comprising: providing a first to-be-detected portion [considered to be 15a] and a second to-be-detected portion [considered to be 15b] on a wire reel (15); detecting the first to-be-detected portion with a first detecting apparatus (46a) to detect an amount of rotation of the wire reel; detecting the second to-be-detected portion with a second detecting apparatus (46b) during rotation of the wire reel; and counting with a control circuit [control means 100 includes circuit 108] the second to-be-detect portion [considered to be 15b] detected with the second detecting apparatus (46b) to detect a type

of the wire reel [It is also noted that first detecting apparatus 46a is connected to position detecting circuit 102 and second detecting apparatus 46b is connected to position detecting circuit 103. Circuits 102 and 103 are connected to circuit 104 which calculates the width of the bobbin. Circuit 104 is connected to circuit 108. Detecting "a type of the wire reel" is considered to be the fullness or amount of wire layers on the bobbin/reel; it is determined by the arithmetic circuit 108 which calculates the number of turns per layer on the bobbin. Column 5, lines 5-35]

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taneda in view of Hanagasaki et al. (hereafter "Hanagasaki") (US Patent 5,515,887), previously presented.

Taneda discloses detectors/sensors 46a and 46b that are fixed to the slide base 47 and each provided with a contact which projects forward from the slide base 47; the respective contacts of the detectors make contact with the flanges, considered to be the to-be-detected portions [Column 4, lines 52-68]. Taneda discloses the invention substantially as claimed except for a non-contact type sensor. Hanagasaki is relied upon to teach a wire reel (3) have detecting means including a non-contact, optical sensor (22).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a non-contact sensor because combining prior art elements according to known method yields predictable results. It is also noted that Taneda discloses having an electric micrometer or the like that can be used for each of the detectors 46a and 46b [Column 5, lines 2-4].

Claims 15, 19, 23, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (hereafter "Ishikawa") (US Patent 6,401,766), previously presented, in view of Taneda.

With regards to **claim 15**, a reinforcing bar binder comprising: a storing chamber (105) provided in a main body of the reinforcing bar binder for mounting a wire reel (106) around which a wire (b) for binding a reinforcing-bar (a) is wound [Column 6, lines 9-11], the wire being twisted for binding the reinforcing bar after it is wound around the reinforcing bar, and the storing chamber being provided with a detecting device [sensor 117, It is noted that sensor 117 is a part of feed mechanism 103, as seen in Figure 3, provides just about feed means 104 (Column 4, lines 34-36) which is also considered to be within the storing chamber 105] wherein;

Ishikawa discloses the invention substantially as claimed except for a control circuit that judges a detection output of the detecting device, the detecting device comprising a first detecting apparatus and a second detecting apparatus; wherein the first detecting apparatus detects a first to-be-detected portion provided on the wire reel to detect an amount of rotation of the wire reel; and the second detecting apparatus detects at least one second to-be-detected portion provided on the wire reel passing the

second detecting apparatus during the amount of rotation of the wire reel detected by the first detecting apparatus; and the control circuit counts second-to-be-detected portions detected by the second detecting apparatus.

Taneda is relied upon to teach a reel (bobbin 15) having a control circuit (control means 100 having circuit 108) that judges a detection output of the detecting device, the detecting device comprising a first detecting apparatus (46a) and a second detecting apparatus (46b); wherein the first detecting apparatus detects a first to-be-detected portion [considered to be 15a] provided on the wire reel to detect an amount of rotation of the wire reel; and the second detecting apparatus detects at least one second to-be-detected portion [considered to be 15b] provided on the wire reel passing the second detecting apparatus during the amount of rotation of the wire reel detected by the first detecting apparatus; and the control circuit counts second-to-be-detected portions detected by the second detecting apparatus [the counting step is considered to be the calculation completed in circuit 108 wherein the number of turns per layer is calculated]. [It is also noted that first detecting apparatus 46a is connected to position detecting circuit 102 and second detecting apparatus 46b is connected to position detecting circuit 103. Circuits 102 and 103 are connected to circuit 104 which calculates the width of the bobbin. Circuit 104 is connected to circuit 108. Detecting "a type of the wire reel" is considered to be the fullness or amount of wire layers on the bobbin/reel; it is determined by the arithmetic circuit 108 which calculates the number of turns per layer on the bobbin. Column 5, lines 5-35]. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the reel identifying technique of Taneda to Ishikawa's invention because applying a known technique to a

known device ready for improvement yields predictable results; such as, expedition of processing times.

With regards to **claim 40**, as best understood, Taneda also discloses wherein the control circuit receives a first signal when the first detecting apparatus detects the first to-be-detected portion a first time and a second signal when the first detecting apparatus the first-to-be-detected portion a second time [Column 6, lines 12-20].

With regards to **claim 19**, Ishikawa discloses a wire reel (106) utilized in a reinforcing bar binder comprising a storing chamber (106) provided in a main body of the reinforcing bar binder for mounting the wire reel around which a wire for binding a reinforcing-bar is wound, the wire being twisted for binding the reinforcing bar after it is wound around the reinforcing bar, wherein the storing chamber is provided with a first detecting apparatus [sensor 117, It is noted that sensor 117 is a part of feed mechanism 103, as seen in Figure 3, provides just about feed means 104 (Column 4, lines 34-36) which is also considered to be within the storing chamber 105]. Ishikawa discloses the invention substantially as claimed except for the storing chamber is provided with a first detecting apparatus and a second detecting apparatus; the wire reel is provided with a first to-be-detected portion and a second to-be-detected portion coupled to a control circuit; the first to-be-detected portion is detected by the first detecting apparatus to detect an amount of rotation of the wire reel; and the second to-be-detected portion passing the second detecting apparatus during the amount of rotation of the wire reel detected by the first detecting apparatus is counted by the control circuit.

Taneda is relied upon to teach a reel (bobbin 15) having a control circuit (control means 100 having circuit 108) that judges a detection output of the detecting device, the detecting device comprising a first detecting apparatus (46a) and a second detecting apparatus (46b); wherein the first detecting apparatus detects a first to-be-detected portion [considered to be 15a] provided on the wire reel to detect an amount of rotation of the wire reel; and the second detecting apparatus detects at least one second to-be-detected portion [considered to be 15b] provided on the wire reel passing the second detecting apparatus during the amount of rotation of the wire reel detected by the first detecting apparatus; and the control circuit counts second-to-be-detected portions detected by the second detecting apparatus[the counting step is considered to be the calculation completed in circuit 108 wherein the number of turns per layer is calculated]. [It is also noted that first detecting apparatus 46a is connected to position detecting circuit 102 and second detecting apparatus 46b is connected to position detecting circuit 103. Circuits 102 and 103 are connected to circuit 104 which calculates the width of the bobbin. Circuit 104 is connected to circuit 108. Detecting "a type of the wire reel" is considered to be the fullness or amount of wire layers on the bobbin/reel; it is determined by the arithmetic circuit 108 which calculates the number of turns per layer on the bobbin. Column 5, lines 5-35]. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the reel identifying technique of Taneda to Ishikawa's invention because applying a known technique to a known device ready for improvement yields predictable results; such as, expedition of processing times.

With regards to **claim 23**, as best understood, Ishikawa discloses a reinforcing bar binder comprising a storing chamber (105) provided in a main body of the reinforcing bar binder for mounting a wire reel (106) around which a wire (b) for binding a reinforcing-bar is wound [Column 6, lines 9-11], the wire being fed by rotating the wire reel and being twisted for binding the reinforcing bar after it is wound around the reinforcing bar, as seen in Figure 1. Ishikawa discloses the invention substantially as claimed except a wire-reel identifying including counting a second to-be-detected portion passing a second detecting apparatus during an amount of rotation of the wire reel detected by a first detecting apparatus.

Taneda is relied upon to teach a reel (bobbin 15) having a control circuit (control means 100 having circuit 108) and a detecting device comprising a first detecting apparatus (46a) and a second detecting apparatus (46b); wherein the first detecting apparatus detects a first to-be-detected portion [considered to be 15a] provided on the wire reel to detect an amount of rotation of the wire reel; and the second detecting apparatus detects at least one second to-be-detected portion [considered to be 15b] provided on the wire reel passing the second detecting apparatus during the amount of rotation of the wire reel detected by the first detecting apparatus; and the control circuit counts second-to-be-detected portions detected by the second detecting apparatus [the counting step is considered to be the calculation completed in circuit 108 wherein the number of turns per layer is calculated]. [It is also noted that first detecting apparatus 46a is connected to position detecting circuit 102 and second detecting apparatus 46b is connected to the position detecting circuit 103. Circuits 102 and 103 are connected to

circuit 104 which calculates the width of the bobbin. Circuit 104 is connected to circuit 108. Detecting "a type of the wire reel" is considered to be the fullness or amount of wire layers on the bobbin/reel; it is determined by the arithmetic circuit 108 which calculates the number of turns per layer on the bobbin. Column 5, lines 5-35]. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the reel identifying technique of Taneda to Ishikawa's invention because applying a known technique to a known device ready for improvement yields predictable results; such as, expedition of processing times.

Claims 17, 20, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of Taneda and Hanagasaki.

The combination of Ishikawa and Taneda discloses the invention substantially as claimed except for wherein the second detecting apparatus is a non-contact type sensor. Hanagasaki is relied upon to teach a wire reel (3) have detecting means including a non-contact, optical sensor (22). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a non-contact sensor because combining prior art elements according to known method yields predictable results. It is also noted that Taneda discloses having an electric micrometer or the like can be used for each of the detectors 46a and 46b [Column 5, lines 2-4].

Allowable Subject Matter

Claims 16, 18, 24-26, 28-30, 32, 37 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 21, 22, 33, 35, 36, 38, and 39 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

It is in the opinion of the examiner that the art of record neither anticipates nor renders obvious "(claim 16) wherein the main body of the reinforcing bar binder is provided with a controller for controlling an amount of feeding of the wire or a twisting torque …(claims 21, 22, 25, 33) wherein the wire reel is provided with a flange and a round concave portion formed on a central portion of the flange, and the first to-be-detected portion is formed on the flange and the second to-be-detected portion is housed within the round concave portion…(claims 24 and 32) adjusting an amount of feeding of the wire or a twisting torque on the wire..(claim 35) a boss portion formed on one of the flanges, wherein the first to-be-detected portion is formed outside the boss portion and the second to-be-detected portion is formed inside the boss portion" in combination with the rest of the claimed limitations set forth in the independent claim.

Response to Arguments

Applicant's arguments with respect to claims 15, 19, 23, and 31 and the Obata reference have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa M. Bonk whose telephone number is (571)272-1901. The examiner can normally be reached on Monday-Friday 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on 571-272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa M. Bonk/
Examiner, Art Unit 3725